Understanding How the New Standards will Improve the Math Skills for Florida Students:

foundation for florida's future
Making Education in Florida a Model for the Nation

The math problems below are examples of the tasks used to teach Florida's old standards, compared to the kind of tasks that will now be used under the new Common Core State Standards for Math.

Grade 1 Old Expectation

Tina had 10 balloons. She gave seven away. How many balloons does she have now?

This question simply requires students to subtract 7 from 10 to get the number of balloons Tina has left.

Grade 1 New Expectation

Tina's Diner has one small table that can seat four people. Tina's Diner also has one large table that can seat double that amount. Fifteen people came in at lunch time. How many people did not get a seat?

Grades 2-3 Old Expectation

Each shirt costs $4. How much do 3 shirts cost?

Grades 2-3 New Expectation

Each shirt has 6 buttons. How many buttons are needed to make 7 shirts?

This question requires automatic recall of multiplication tables to get at the right answer.

Grades 4 Old Expectation

Under past standards, students would be asked to round a number to the nearest hundred:

•Round 9,149 to the nearest hundred.

Grades 4 New Expectation

Under the Common Core State Standards, student would be asked the following:

•When rounded to the nearest hundred, the number of seats in a baseball stadium is 9,100. What is the greatest number of seats that could be in this stadium? Explain how you know.

Grades 6-8 Old Expectation

A bird flew 20 miles in 100 minutes at constant speed. At that speed, how long would it take the bird to fly 6 miles?

This question requires one calculation, using a formula.

Grades 6-8 New Expectation

A bird flew 20 miles in 100 minutes at constant speed. At that speed: (a) how long would it take the bird to fly 6 miles? (b) How far would the bird fly in 15 minutes? (c) How fast is the bird flying in miles per hour? (d) What is the bird's pace in minutes per mile?

This question requires a series of calculations and reasoning. It completely measures if students understand the formula as a way to calculate rates.

High School Old Expectation

Melinda invested $1000 in a retirement account. The formula below shows the amount of money, A, that will be in her account at the end of t years.

$$A = 1000(1 + r)t$$

In the formula, r is the interest rate, expressed as a decimal. Melinda's account has an interest rate of 6%. Which of the following is closest to the amount that will be in Melinda's account at the end of 2 years?

A. $1120
B. $1124
C. $1256
D. $1360

This question requires students to simply substitute values for rate and time into the given formula to calculate A. This problem doesn't require students to actually understand how the formula works.

High School New Expectation

Isabella owes a balance of $300 on her credit card. She has stopped making purchases with the card, and she plans to make a $40 payment each month until her debt is paid and her credit card balance is $0. The monthly rate is 1.5%, and interest is added each month to the balance that remains.

Answer the questions below, using dollar amounts written as decimals rounded to the nearest cent.

1. At the end of the sixth month, how much ill Isabella still owe on the credit card?
2. How many months will it take Isabella to pay off her credit card debt?
3. What is the amount of Isabella's last payment?

This series of questions require extensive calculations and a deeper understanding of formulas related to real-world investment problems.

Understanding How the New Standards will Improve Reading Comprehension for Florida Students:

foundation for florida's future
Making Education in Florida a Model for the Nation

The passage below is an example of the kind of text that was read in 2nd or 3rd grade under past Florida expectations. Under the English Language Arts Common Core Standards this text is expected to be read at the Kindergarten and 1st grade level.

Frog and Toad Together, by: Arnold Lobel

Frog was in his garden. Toad came walking by.

"What a fine garden you have, Frog," he said. "Yes," said Frog. "It is very nice, but it was hard work."

"I wish I had a garden," said Toad. "Here are some flower seeds. Plant them in the ground," said Frog, "and soon you will have a garden."

"How soon?" asked Toad. "Quite soon," said Frog.

Toad ran home. He planted the flower seeds. "Now seeds," said Toad, "start growing."

Toad walked up and down a few times. The seeds did not start to grow. Toad put his head close to the ground and said loudly, "Now seeds, start growing!" Toad looked at the ground again. The seeds did not start to grow.

Toad put his head very close to the ground and shouted, "NOW SEEDS, START GROWING!"

Frog came running up the path. "What is all this noise?" he asked. "My seeds will not grow," said Toad. "You are shouting too much," said Frog. "These poor seeds are afraid to grow."

"My seeds are afraid to grow?" asked Toad. "Of course," said Frog. "Leave them along for a few days. Let the sun shine on them, let the rain fall on them. Soon your seeds will start to grow."

That night, Toad looked out of his window. "Drat!" said Toad. "My seeds have not started to grow. They must be afraid of the dark."

Toad went out to his garden with some candles. "I will read the seeds a story," said Toad. "Then they will not be afraid." Toad read a long story to his seeds.

All the next day Toad sang songs to his seeds. And all the next day Toad read poems to his seeds. And all the next day toad played music for his seeds.

Toad looked at the ground. The seeds still did not start to grow. "What shall I do?" cried Toad. "These must be the most frightened seeds in the whole world!" Then Toad felt very tired and he fell asleep.

"Toad, Toad, wake up," said Frog. "Look at your garden!" Toad looked at his garden. Little green plants were coming up out of the ground.

"At last," shouted Toad, "my seeds have stopped being afraid to grow!"

"And now you will have a nice garden too," said Frog. "Yes," said Toad, "but you were right, Frog. It was very hard work."

Student Task Before Common Core	Student Task With Common Core
Students retell the main events (e.g., beginning, middle, end) of ***Frog and Toad Together****, and identify the characters and the setting of the story.*	*Compare and contrast the adventures and experiences of Frog and Toad in* ***Frog and Toad Together****, and participate in collaborative conversations with your classmates about your comparisons.*

Top-Achieving Countries' Composite Mathematics Standards

foundation for florida's future
Making Education in Florida a Model for the Nation

Topic	Grade 1	2	3	4	5	6	7	8
Whole Number Meaning	●	●	●	●	●			
Whole Number Operations	●	●	●	●	●			
Measurement Units	●	●	●	●	●	●	●	
Fractions			●	●	●	●		
Equations & Formulas			●	●	●	●	●	●
Data Representation & Analysis			●	●	●	●		●
2-D Geometry Basics			●	●	●	●	●	●
Polygons & Circles				●	●	●	●	●
Perimeter, Area & Volume				●	●	●	●	●
Rounding & Significant Figures				●	●			
Estimating Computations				●	●	●		
Properties of Whole Numbers Operations				●	●			
Estimating Quantity & Size				●	●			
Decimals				●	●	●		
Relation of Decimals & Fractions				●	●	●		
Properties of Decimals & Fractions					●	●		
Percentages					●	●		
Proportionality Concepts					●	●	●	●
Proportionality Problems					●	●	●	●
2-D Coordinate Geometry					●	●	●	●
Geometric Transformations						●	●	●
Negative Numbers, Integers & Their Properties						●	●	
Number Theory							●	●
Exponents, Roots & Radicals							●	●
Orders of Magnitude							●	●
Measurement Estimation & Errors							●	
Constructions Using Straightedge & Compass							●	●
3-D Geometry							●	●
Congruence & Similarity								●
Rational Numbers & Their Properties								●
Functions								●
Slope								●

source: Michigan State University

Intended by two-thirds or more of the top-achieving countries.

●

State Level Agreement

foundation for florida's future
Making Education in Florida a Model for the Nation

Topic	Grade 1	2	3	4	5	6	7	8
Whole Number: Meaning								
Whole Number: Operations			●					
Measurement Units			●		●			
Common Fractions								
Equations & Formulas								
Data Representation & Analysis			●		●			
2-D Geometry: Basics								
2-D Geometry: Polygons & Circles								
Measurement: Perimeter, Area & Volume						●		
Rounding & Significant Figures								
Estimating Computations								
Whole Numbers: Properties of Operations								
Estimating Quantity & Size								
Decimal Fractions								
Relation of Common & Decimal Fractions								
Properties of Common & Decimal Fractions	○	○						
Percentages	○							
Proportionality Concepts								
Proportionality Problems								
2-D Geometry: Coordinate Geometry								
Geometry: Transformations								
Negative Numbers, Integers, & Their Properties								
Number Theory								
Exponents, Roots & Radicals	○	○						
Exponents & Orders of Magnitude	○	○						
Measurement: Estimation & Errors								
Constructions Using Straightedge & Compass	○	○	○	○				
3-D Geometry								
Geometry: Congruence & Similarity								
Rational Numbers & Their Properties	○	○	○					
Patterns, Relations & Functions								
Proportionality: Slope & Trigonometry	○	○	○	○	○			

source: Michigan State University

Intended by all states ●

Intended by none of the states ○

Intended by more than half of the top-achieving countries ■

The Common Core State Standards for Mathematics

foundation for florida's future
Making Education in Florida a Model for the Nation

Topic	Grade 1	2	3	4	5	6	7	8
Whole Number Meaning	●	●	●	●	●			
Whole Number Operations	●	●	●	●	●			
Properties of Whole Numbers Operations	●	●	●	●	●	●		
Fractions	●	●	●	●	●	●		
Measurement Units	●	●	●	●	●	●	●	●
Polygons & Circles	●	●	●	●	●	●	●	●
Data Representation & Analysis	●	●	●	●	●	●	●	●
3-D Geometry	●	●			●	●	●	●
Measurement Estimation & Errors		●	●					
Number Theory		●		●	●	●		
2-D Geometry Basics		●		●	●	●	●	●
Rounding & Significant Figures			●	●	●			
Relation of Decimals & Fractions			●	●	●	●		
Estimating Computations			●	●	●		●	●
Perimeter, Area & Volume			●	●	●	●	●	●
Equations & Formulas			●	●	●	●	●	●
Decimals				●	●	●		
Patterns, Relations & Functions				●	●	●	●	●
Geometric Transformations				●		●	●	●
Properties of Decimals & Fractions					●	●		
Orders of Magnitude					●			●
2-D Coordinate Geometry					●	●	●	●
Exponents, Roots & Radicals					●	●		●
Percentages						●	●	
Negative Numbers, Integers & Their Properties						●	●	
Proportionality Concepts						●	●	●
Proportionality Problems						●	●	●
Rational Numbers & Their Properties						●	●	●
Constructions Using Straightedge & Compass							●	
Systematic Counting							●	
Uncertainty & Probability							●	
Real Numbers & Their Properties								●
Congruence & Similarity								●
Slope								●
Validation & Justification								●

source: Michigan State University

Topic Intended in Common Core Standards.

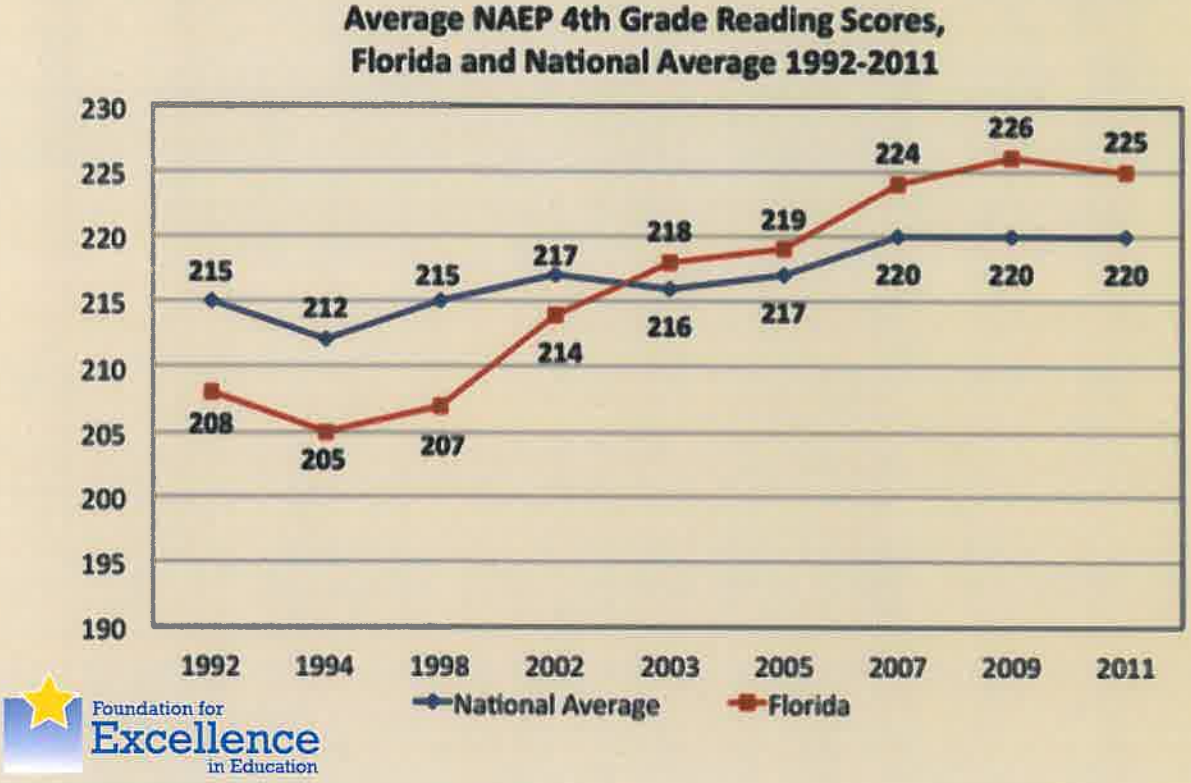
●

Celebrating Florida's Success Story

foundation for florida's future
Making Education in Florida a Model for the Nation

For more than a decade, Florida has made dramatic gains in education by providing parents more choices, strengthening accountability, raising standards and rewarding effective teachers. *Florida's education is on the rise and the results of our students' successes speak for themselves:*

NAEP

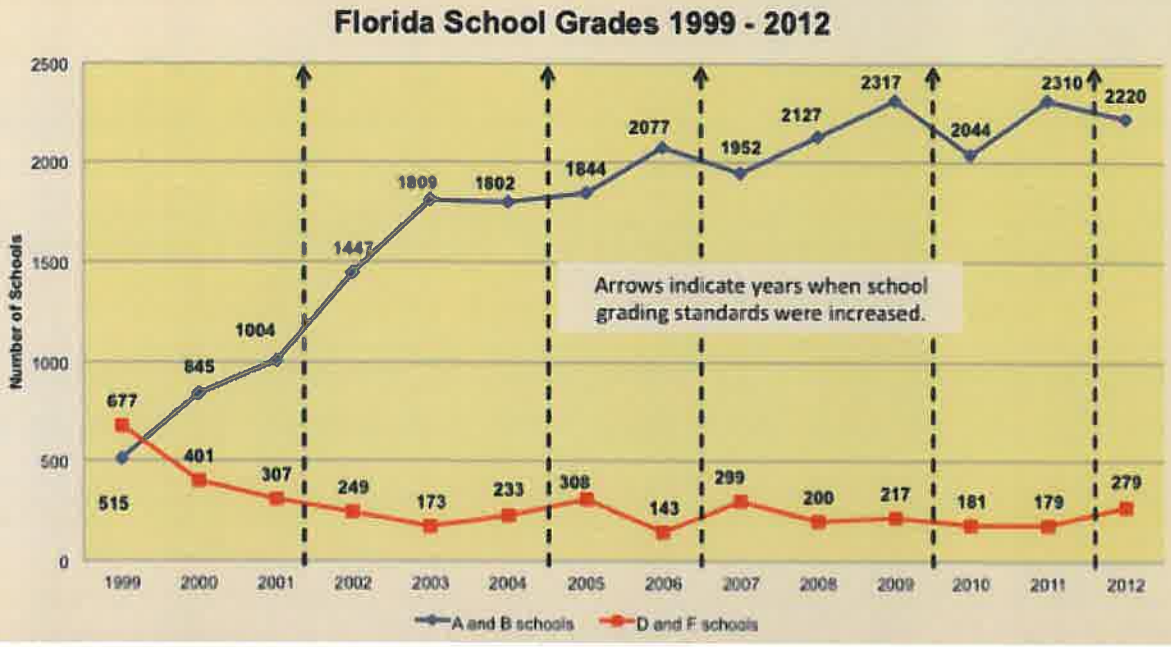


Foundation for Excellence in Education

The National Assessment of Educational Progress (NAEP) is one of the tools the United States uses to measure student progress. Back in 1992, Florida's 4th grade students were reading more than half a grade level below the national average. Today our 4th graders are reading at half a grade level above the national average.

Results of Florida's A+ Plan

foundation for florida's future
Making Education in Florida a Model for the Nation



In 2013, the number of A&B elementary and middle schools dropped to 55% (1,437 schools) and the number of D&F elementary and middle schools jumped to 17% (460 schools), however high school grades have not yet been released. **This year isn't the first time we'll have seen scores drop temporarily.** Since 1999, every time standards were raised for children and the grading formulas for schools, they all adjusted and met the higher expectations. And after an initial drop in performance, grades went back up. **Now, we need to get that improvement moving faster again.**

Graduation and Drop Out Rate

Since 1997, Florida officials have raised the bar for high school graduation several times and opponents have said students, especially minority students, will drop out.
The opposite has been true.

Graduation Rate	1998-99	2011-12	Change
Black	42%	64%	21.5%
Hispanic	47%	73%	26.4%
All Students	52%	75%	22.5%

Dropout Rate	1998-99	2011-12	Change
Black	6.6%	3.1%	-3.5%
Hispanic	8.3%	1.9%	-6.4%
All Students	5.4%	1.9%	-3.5%

Florida has seen high school graduation rates consistently increase for all students. The dropout rate has continuously decreased.

Fast Facts

foundation for florida's future
Making Education in Florida a Model for the Nation

- Since Florida began improving its education system in 1998, the graduation rate has gone up by more than 20%.
- Florida leads the nation for the fourth year in a row for having the highest percentage of high school students who take AP exams.
- Over the past 13 years there has been a 400% increase in the number of Advanced Placement exams taken by Florida students, with the number of students passing these exams increasing by over 300%.
- Florida's fourth graders scored the second highest in the world on the 2011 Progress in International Reading Literacy Study.
- According to annual rankings, Florida's public schools have been ranked in the top 10 nationally three of the last four years, after being ranked 31st just seven years ago.
- Florida's African American students are ranked 4th in the country on making the most progress in reading and math.

Then Why Common Core State Standards?

As a result of education reform based on accountability, Florida has made huge academic gains. Common Core State Standards will continue to take Florida's education success story to the next level.

- Common Core State Standards are a rigorous and clear set of academic expectations of what Florida students should know, understand and be able to explain in the areas of English and math at each grade level, Kindergarten through twelfth grade.
- Common Core State Standards are set to internationally competitive levels in English and Math. This means that students may be more challenged by the material they study, and the tests they will take will measure more advanced concepts and require students to show their work.
- Forty-five states have adopted higher standards voluntarily, and textbooks, lesson plans and other materials remain a local decision. Adoption of Common Core State Standards is state-driven, voluntary and paves the way for less federal regulation and more innovation.
- Common Core State Standards were developed by experienced educators, leaders and experts nationwide who built on the best and highest state standards existing in the United States. The standards were written by examining the expectations of high-performing countries around the world.
- New tests are being developed based on these Common Core State Standards. These new tests are being designed to help determine what students know and can do, and whether they are on track to graduate from high school and ready for college and careers. Over time, these new tests would replace the current FCAT tests for English and Math that are being given here in Florida.
- In today's modern times, people move in and out of states frequently. By having the same Common Core standards in each state, students won't fall behind or get ahead if they move from Florida or into Florida.

College and Career Ready Standards

foundation for florida's future
Making Education in Florida a Model for the Nation

The hard truth is that although Florida has made great academic gains, most students in the United States who do achieve a high school diploma are not ready for college coursework. According to a 2012 College Board study, remedial classes are often needed at both the university and community college levels.

Common Core State Standards were developed to equip students who meet these standards to enroll in a two or four-year institution *without needing remediation*.

In the long term, this will save taxpayer dollars by lessening future generations' dependence on taxpayer-funded government aid and reducing remediation costs at the public university and community college level.